UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/795,930	03/08/2004	Karl Scheller	ALLEG-041PUS	1800

22494 7590 10/28/2005

DALY, CROWLEY, MOFFORD & DURKEE, LLP
SUITE 301A
354A TURNPIKE STREET
CANTON, MA 02021-2714

EXAMINER	
JACKSON, TYRONE D	

ART UNIT	PAPER NUMBER
2862	

DATE MAILED: 10/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

Office Action Summary	Application No.	Applicant(s)	
	10/795,930	SCHELLER ET AL.	
	Examiner	Art Unit	
	Tyrone Jackson	2862	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-19 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-19 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 08 March 2004 is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 3/8/04 and 6/3/04.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

The drawings are objected to because of the following minor informality. In Fig. 3, the reference numeral '52' should be '56'.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Moody et al. {6232768}.

Regarding claim 1, Moody et al. discloses a proximity detector comprising a magnetic-field-to-voltage transducer (Hall element) for providing a magnetic field signal indicative of an ambient magnetic field (column 4 lines 58-64), a peak detector responsive to the magnetic field signal for providing a tracking signal which substantially follows at least a portion of the magnetic field signal (column 5 lines 6-10), in which the peak detector comprises a first digital-to-analog converter (NDAC1, 30) for providing a first output signal having a first step size , a second digital-to-analog converter (PDAC1, 20) for providing a second output signal having a second step size larger than the first step size (Fig. 9, the second step signal has a larger voltage), and a summation circuit

(differential amplifer, 60) coupled to the first and second output signals (column 6 lines 54-59).

Regarding claims 2 and 5, Moody et al. further discloses a too-far-behind comparator (16) for providing a too-far-behind signal which changes state when the magnetic field signal varies from the tracking signal by a predetermined amount, wherein the tracking signal is controlled in response to the too-far-behind signal (column 5 lines 47-50).

Regarding claim 3, Moody et al. discloses that the peak detector further comprises: a first counter (27) for providing a first count signal to the first digital-to-analog converter (Fig 1); and a second counter (17) for providing a second count signal to the second digital-to-analog converter (Fig 1).

Regarding claim 4, Moody et al. discloses that in response to a first state of the too-far-behind signal, the second counter is stepped in association with a terminal count of the first counter, and in response to a second state of the too-far-behind signal, the second counter is also stepped (column 5 line 51-column 6 line 5).

Regarding claims 6- 9, Moody et al. discloses that the proximity detector further includes a POSCOMP comparator (14) for providing a POSCOMP signal which changes state when the magnetic field signal varies from the tracking signal by a predetermined amount, wherein at least one of the tracking signal and the magnetic field signal is forced towards the other one of the tracking signal and the magnetic field signal in response to changes in state of the POSCOMP signal (column 5 lines 29-38, Fig. 2).

Regarding claim 10, Moody et al. discloses a method for detecting a ferrous article comprising the steps of: generating a magnetic field signal indicative of an ambient magnetic field (column 4 lines 58-64); generating a tracking signal which substantially follows at least a portion of the magnetic field signal (column 5 lines 6-10); generating a too-far-behind signal which changes state when the magnetic field signal varies from the tracking signal by a predetermined amount; and changing step size of the tracking signal in response to transitions of the too-far-behind signal (column 5 lines 47-50).

Regarding claim 11, Moody et al. discloses the method described above further comprising steps of: generating a first output signal having a first step size with a first digital-to-analog converter; generating a second output signal having a second step size larger than the first step size with a second digital-to-analog converter (Fig 9); and summing the first and second output signals to provide the tracking signal (column 6 lines 54-59).

Regarding claim 12, Moody et al. discloses the method described above further comprising steps of: counting with a first counter for providing a first count signal to the first digital-to-analog converter; and counting with a second counter for providing a second count signal to the second digital-to-analog converter, wherein in response to a first state of the too-far-behind signal, the second counter is stepped in association with a terminal count of the first counter, and in response to a second state of the too-far-behind signal, the second counter is also stepped (column 5 line 51-column 6 line 5).

Regarding claims 13-16, Moody et al. discloses the method described above further including: generating a POSCOMP signal which changes state when the magnetic field signal varies from the tracking signal by a predetermined amount and forcing at least one of the magnetic field signal and the tracking signal towards the other one of the magnetic field signal and the tracking in response to transitions of the POSCOMP signal (column 5 lines 29-38, Fig. 2).

Regarding claim 17, Moody et al. discloses the method described above further including: comparing the magnetic field signal (V_{sig}) to the tracking signal (V_{P1}) to generate the POSCOMP signal (V_{out}); counting with first and second counters in response to the POSCOMP signal to provide first and second count signals; and converting the first and second count signals to the tracking signal (column 5 lines 29-38).

Regarding claim 18, Moody et al. discloses the method described above further comprising generating a threshold signal (V_{N1}) at a predetermined offset with respect to the tracking signal (V_{P1}) and using the threshold signal to generate said POSCOMP signal (V_{out}, column 5 line 65-column 6 line 4).

Regarding claim 19, Moody et al. discloses the method described above in which the tracking signal level and the threshold signal level are interchanged (flip flop, 33) in response to transitions of the POSCOMP signal (Fig. 2 and Fig 3).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patents 6100680, 5781005, 5694038, and 5650719 all disclose various types of proximity detectors.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tyrone Jackson

October 24, 2005

Michael Tokar
Supervisory Patent Examiner
Technology Center 2800